(12) UK Patent Application (19) GB (11) 2 362 565 (13) A

(43) Date of A Publication 28.11.2001

(21) Application No 0012530.2

(22) Date of Filing 23.05.2000

(51) INT CL[7]
A46B 5/00 , A47K 11/10

(52) UK CL (Edition S)
A4K KEA
A4F FNT

(56) Documents Cited
GB 2330067 A GB 2291798 A WO 97/45050 A1
WO 87/00022 A1 US 4031673 A

(58) Field of Search
UK CL (Edition S) A4F FNT , A4K KEA
INT CL[7] A46B , A47K
Online databases: WPI; EPODOC; JAPIO

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(54) Abstract Title
Toilet brush

(57) A toilet brush comprises a handle 11, and a disposable head 26, gripped by a claw mechanism 19 attached to the handle. Operation of a push-button 16 opens the claw mechanism to release the head. The head may be made of substantially water-soluble tissue paper.

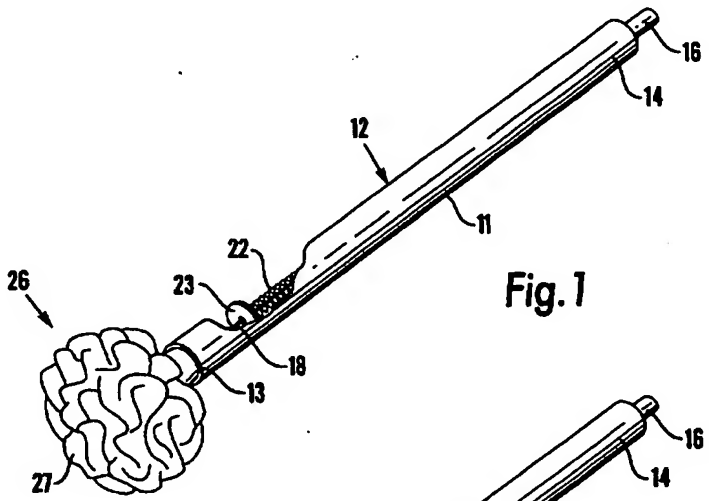

Fig. 1

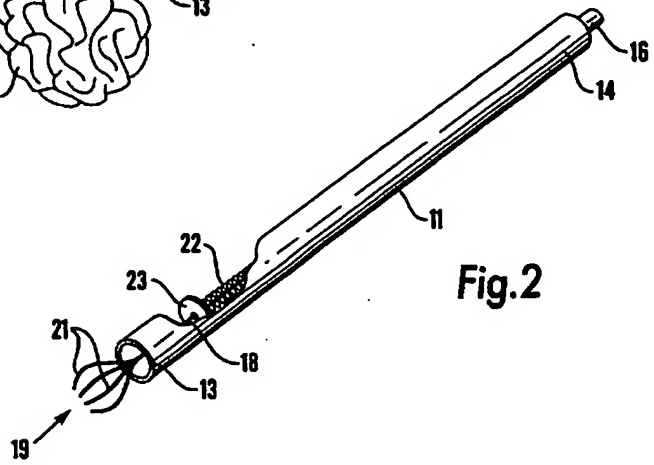

Fig.2

At least one drawing originally filed was informal and the print reproduced here is taken from a later filed formal copy.

The claims were filed later than the filing date but within the period prescribed by Rule 25(1) of the Patents Rules 1995.

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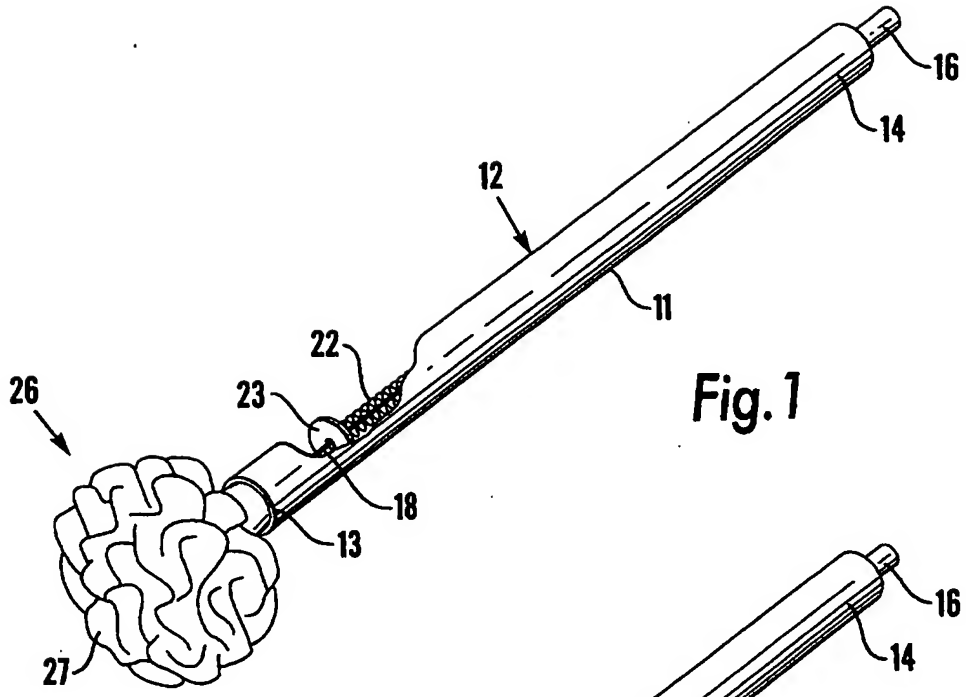

Fig. 1

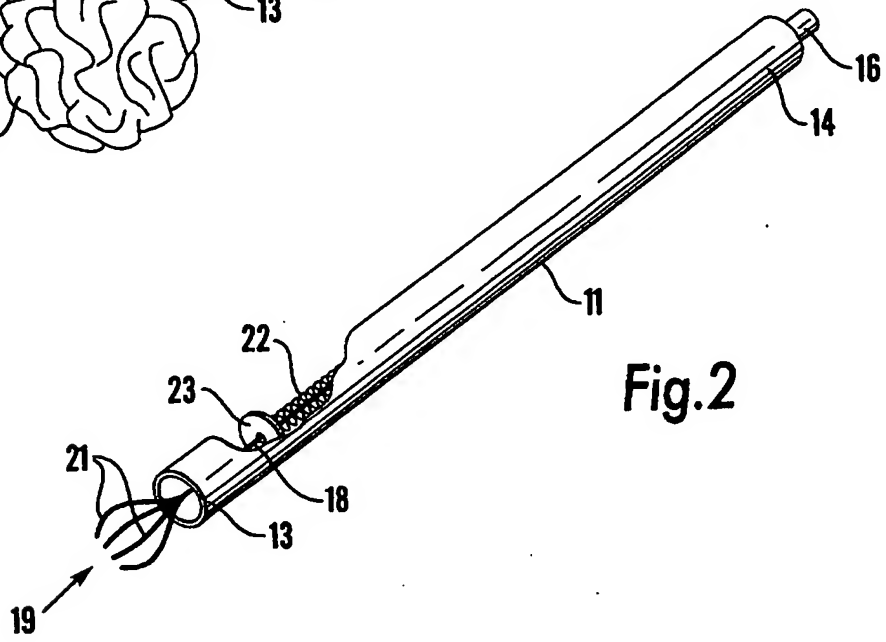

Fig. 2

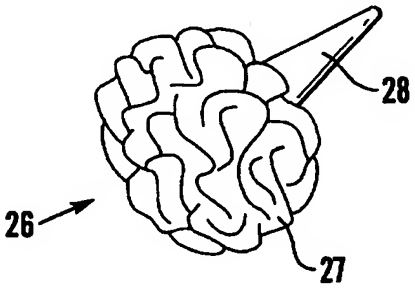

Fig. 3

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DISPOSABLE CLEANING IMPLEMENT

The process of the invention relates to a disposable cleaning implement, and in particular, but not restricted thereto, a disposable toilet brush.

The bowl of a toilet requires cleaning from time to time and it is normal to provide a suitable brush that is usually stored in a housing close to the toilet.

Clearly there are problems with hygiene in respect of toilet brush storage as it is not possible to guarantee to clean them thoroughly after use.

It would be useful to provide a disposable toilet brush. Such a brush could be used once and then disposed of. One difficulty is how one disposes of it. Clearly it is not desirable to remove the brush from adjacent the toilet to a separate bin, as this requires transporting the brush from one point to another.

It would desirable to arrange for the brush, or at least part of it to be disposable down the toilet bowl and to be flushed away. However, such arrangement requires a brush that is not likely to clog up the plumbing system.

The present invention provides a toilet brush comprising a handle, and a disposable brush head mounted to the end of the handle, the disposable brush head being connected to the distal end of the handle by a releasable means, the releasable means being controlled by a manually operable means at the proximal end of the handle.

The brush head itself may be made of a material, which is water-soluble or substantially water-soluble although the material should be somewhat stiff to provide adequate cleaning ability. By water soluble material, we mean a material which dissolves in water or breaks up into small particles or fibres (such as toilet tissue paper) which can be flushed down the toilet. The brush head may comprise, for example, paper, in particular tissue paper, which may be treated to be somewhat stiff

and provide a hard edge for properly cleaning the toilet bowl. The brush head may include a mounting means, which may be soluble or, alternatively, sufficiently small to pass through the toilet system without difficulty.

The handle may comprise a hollow tube of, for example, plastics material, and the releasable means for mounting the brush head may comprise a claw mechanism for grasping the brush head, the claw mechanism being openable by means of the said manually operable means at the proximal end of the handle. The manually operable means may include a push button. In a preferred arrangement the claw mechanism may comprise a plurality of fingers which when drawn back into the handle are urged together to grip the brush head, this movement being provided by a spring within the handle, and there may be provided a button on the proximal end of the handle to push the claw mechanism out of the handle to thereby release the brush head.

A preferred embodiment of the invention will now be described by way of example only and with reference to the accompany drawings in which: -

Figure 1 is a general arrangement of a disposable toilet brush, with the brush head engaged with the handle,

Figure 2 is a perspective view of the brush handle without the brush head mounted thereto and with the releasable means exposed, and,

Figure 3 shows a perspective view of the brush head.

Referring to Figures 1 and 2, there is shown a disposable toilet brush comprising a handle 11 in the form of a hollow tube 12 of plastics or other material. The hollow tube 12 has an open lower (or distal end) 13 and an upper (or proximal) end 14 at which is mounted a release button 16. The release button 16 is mounted to the upper (proximal) end 17 of a wire 18 which passes down through the hollow tube 12 and mounts at the lower end a claw mechanism 19 in the form of wire fingers 21. Figure 2 shows an arrangement in which the release button 16 is depressed to push the

wire fingers 21 out from within the hollow tube 12. Part of the drawing of the hollow tube 12 in Figure 1 is cut away to show therein a coil spring 22 which engages between part 23 of the hollow tube 12 and a shoulder (not shown) on the wire 18 to urge the wire 18 in the upward direction. When the button 16 is released the spring 22 thereby urges the wire 18 upwardly, and the wire fingers 21 of the claw 19 engage the lower circular end of the hollow tube 12 around the end 13 and are thereby urged towards on another from their natural, open, position.

Referring now to Figure 2 the toilet brush head 26 is shown. This comprises a rose shape mass of tissue paper that is of the same material as normal toilet paper is manufactured, the rose 27 being mounted by adhesive or other means to a cone shaped cardboard finger 28.

The tissue material may be treated so as to render it suitable for its purpose. For example, the tissue may be treated with a chemical to make the tissue stiffer whilst at the same time allowing the tissue to dissolve or break up in water. Thus for example the stiffening chemical might typically be water soluble, such as starch. Alternatively, only part of the tissue may be stiffened, that is the outer edges of cut shapes, or indeed the rose 27 may include strands of more rigid material coiled around the outside of the rose, the strand material similarly being a water soluble.

In use, the user takes a handle 11, and whilst pressing the button 16 to open the wire fingers 21 in the claw 19 engages the wire fingers over the finger 28 of the brush head. Releasing the button 16 causes the wire 18 to be moved upwards by the spring 22, which thereby causes the wire fingers 21 to engage the open lower end 13 of the tube 12, and causes them to move transversely towards one another to grip the finger 28. The brush may then be used in a conventional way to clean the toilet bowl, and, after use, the button 16 may be pressed to move the wire 18 downwardly against the spring 22 thereby releasing the fingers 21 and thus the brush head 24 from the handle. The brush head will then fall into the toilet bowl and can be flushed away. The handle can then be reused and remains clean. Use of cardboard and tissue to provide the brush head is economical.

The invention is not restricted to the details of the foregoing example.

CLAIMS

1. A toilet brush comprising a handle, and a disposable brush head mounted to the end of the handle, the disposable brush head being connected to the distal end of the handle by a releasable means, the releasable means being controlled by a manually operable means at the proximal end of the handle.

2. A toilet brush as claimed in Claim 1 in which the brush head is of a material which is water-soluble or substantially water-soluble and substantially stiff.

3. A toilet brush as claimed in Claim 1 or 2 in which the brush head is of substantially water-soluble tissue paper.

4. A toilet brush as claimed in any of Claims 1 to 3 in which the brush head is of tissue paper which is treated to be somewhat stiff and provide a hard edge for properly cleaning the toilet bowl.

5. A toilet brush as claimed in any of Claims 1 to 4 in which the brush head includes a mounting means, which is water-soluble.

6. A toilet brush as claimed in any of Claims 1 to 5 in which the brush head includes a mounting means which is sufficiently small to pass through the toilet system.

7. A toilet brush as claimed in any of Claims 1 to 6 in which the handle comprises a hollow tube.

8. A toilet brush as claimed in any of Claims 1 to 7 in which the handle is of plastics material.

9. A toilet brush as claimed in any of Claims 1 to 8 in which the releasable means for mounting the brush head comprises a claw mechanism for grasping the

brush head, the claw mechanism being openable by means of the said manually operable means at the proximal end of the handle.

10. A toilet brush as claimed in Claim 9 in which the manually operable means includes a push button.

11. A toilet brush as claimed in Claim 10 in which the claw mechanism comprises a plurality of fingers which when drawn back into the handle are urged together to grip the brush head.

12. A toilet brush as claimed in Claim 9 in which the a spring is provided within the handle to draw back the claw mechanism into the handle, and there is be provided a button on the proximal end of the handle to push the claw mechanism out of the handle to thereby release the brush head.

INVESTOR IN PEOPLE

Application No: GB 0012530.2 **Examiner:** Brian B Caswell
Claims searched: 1-12 **Date of search:** 1 March 2001

Patents Act 1977
Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.S): A4K (KEA); A4F (FNT)

Int Cl (Ed.7): A46B; A47K

Other: Online databases: WPI; EPODOC; JAPIO

Documents considered to be relevant:

Category	Identity of document and relevant passage		Relevant to claims
X	GB 2330067 A	(ALEXANDER-ABT) see whole document	1,2,5-9
X	GB 2291798 A	(OXBROW) see whole document	1-6
X	WO 97/45050 A1	(EGOLF) see whole document	1-12
X	WO 87/00022 A1	(VON KAENEL) see especially Figure 2	1-6,9,10
X	US 4031673	(PETERSSON) see whole document	1-11

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.

6/15/07, EAST Version: 2.0.3.0